

DERWENT-ACC-NO: 2000-533060  
DERWENT-WEEK: 200274  
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TITLE: High performance permanent magnetic material of  
iron-boron-rare earth  
type used in a magnetic resonance imaging device comprising  
rare earth  
component, boron, and iron with a specified amount of  
impurities

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PRIORITY-DATA: 1999CN-0102207 (February 12, 1999)

PATENT-FAMILY:

PUB-NO	PAGES	MAIN-IPC	PUB-DATE	LANGUAGE
JP 2002536842	024	H01F 001/06	October 29, 2002	N/A
W	029	H01F 001/057	August 17, 2000	E
WO 200048208	000	H01F 001/053	August 16, 2000	N/A
A1	000	H01F 001/057	August 29, 2000	N/A
CN 1263349 A	000	H01F 001/057	January 31, 2001	E
AU 200027515 A				
EP 1072043 A1				

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH C  
CZ DE DK EE ES FI GB G  
D GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LT LU LV MD MG MK MN  
MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
US UZ VN YU ZW AT BE  
CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC M

NL OA PT SD SE SL SZ T  
Z UG ZW AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC  
PT SE

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO.
JP2002536842W	N/A	2000JP-05990
February 2, 2000		
JP2002536842W	N/A	2000WO-US026
February 2, 2000		
JP2002536842W	Based on	WO 200048208
N/A		
WO	N/A	2000WO-US026
February 2, 2000		
200048208A1	N/A	1999CN-01022
February 12, 1999		
CN 1263349A	N/A	2000AU-00275
February 2, 2000		
AU 200027515A	Based on	WO 200048208
N/A		
AU 200027515A	N/A	2000EP-09059
February 2, 2000		
EP 1072043A1	N/A	2000WO-US026
February 2, 2000		
EP 1072043A1	Based on	WO 200048208
N/A		
EP 1072043A1		

INT-CL (IPC): B22F003/00; B22F003/16 ; C22C038/00 ;  
H01F001/053 ;  
H01F001/057 ; H01F001/06 ; H01F001/08

ABSTRACTED-PUB-NO: WO 200048208A  
BASIC-ABSTRACT: NOVELTY - A high performance permanent magnetic material of iron-boron-rare earth type comprises (atom.%) rare earth component (13-19), boron (4-20), iron with impurities (balance). The rare earth component consists (wt.%) of neodymium (29.8-23.8), praseodymium (70-76), and cerium (approx. 0.2- not more than 5).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a process for preparing a sintered permanent magnetic material of

iron-boron-rare (Fe-B-R)  
type comprising: preparing a metallic powder having a  
particle size of 0.3-8  $\mu$ m,  
m, compacting the powder at at least 1.5 ton/cm<sup>2</sup>, and  
sintering the resulted  
powder at 900-1200 deg. C in a non-oxidizing or reducing  
atmosphere. The  
metallic powder contains (atom.%) R (15-16), B (4-8), and  
Fe (at least 52).  
The rare earth has (wt.%) cerium (Ce) (0.2-5), and balance  
of neodymium (Nd)  
(28.9-23.8) and praseodymium (Pr) (70-76).

USE - For use in a magnetic resonance imaging (MRI) device  
(claimed).

ADVANTAGE - The substitution of portions of Nd with certain  
low percentage of  
Ce significantly saves the cost of manufacturing the high  
performance permanent  
magnets of Fe-B-R type while maintaining its magnetic  
performance.

CHOSEN-DRAWING: Dwg.0/5

TITLE-TERMS:  
HIGH PERFORMANCE PERMANENT MAGNETIC MATERIAL IRON BORON  
RARE EARTH TYPE  
MAGNETIC RESONANCE IMAGE DEVICE COMPRISE RARE EARTH  
COMPONENT BORON IRON  
SPECIFIED AMOUNT IMPURE

DERWENT-CLASS: L03 M22 M27 P53 S01 S03 V02

CPI-CODES: L03-B02A5; M22-H03A; M22-H03B; M27-A; M27-A00E  
M27-A00X;

EPI-CODES: S01-E02A2; S01-E02A8E; S03-E07A; V02-A01A1;  
V02-A01A9;

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1668U

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2000-158884

Non-CPI Secondary Accession Numbers: N2000-394283